

Remarks

Claims 1-14 have been amended and new claims 17 and 18 have been added.

No new matter has been added by these amendments.

The Commissioner is hereby authorized to charge any fees under 37 CFR 1.16 or 1.17 as required by this paper to Deposit Account 19-0065.

Respectfully Submitted



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Attachment: Marked-up Version of Amended Claims

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Marked-up Version of Amended Claims

Claim 1 (amended):

1. ~~Process~~ A process for the preparation of an enantiomerically enriched  $\beta$ -lactam, which comprises enantioselective hydrolysis of the corresponding racemic  $\beta$ -lactam in the presence of a lactamase enzyme capable of enantioselective hydrolysis of 3-azatricyclo[4.2.1.0<sup>2,5</sup>]non-7-en-4-one and 7-azabicyclo[4.2.0]oct-4-en-8-one.

Claim 2 (amended):

~~A The~~ process according to claim 1, wherein the lactamase enzyme is in ~~the form of a~~ isolated and purified form.

Claim 3 (amended):

~~A The~~ process according to claim 1, wherein the lactamase enzyme is in the form of a cell paste or intact cells.

Claim 4 (amended):

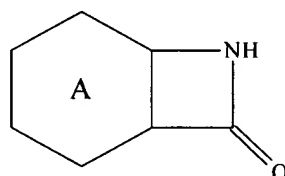
~~A The~~ process according to ~~any preceding claim~~ claim 1, which additionally comprises isolation of the enantiomerically enriched  $\beta$ -amino acid produced by hydrolysis.

Claim 5 (amended):

~~A The~~ process according to claim 4, wherein the isolated  $\beta$ -amino acid is then subjected to a condensation reaction to reform the  $\beta$ -lactam ring.

Claim 6 (amended):

A The process according to ~~any preceding claim~~ claim 1, wherein the lactam is a fused polycyclic compound of the type represented by formula (1)

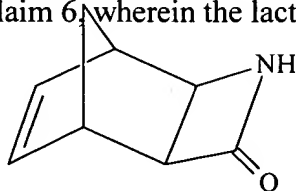


(1)

wherein ring A is any monocyclic or any polycyclic ring, optionally substituted with one or more non-interfering groups.

Claim 7 (amended):

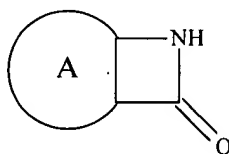
A The process according to claim 6 wherein the lactam has the formula



wherein ring A is unsaturated and optionally also bridged or further fused.

Claim 8 (amended):

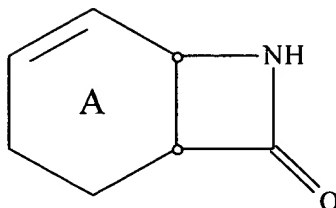
A The process according to claim 7, wherein the lactam is 3-azatricyclo[4.2.1.0<sup>2,5</sup>]non-7-en-4-one (2)



(2)

Claim 9 (amended):

A The process according to claim 1, wherein the lactam is 7-azabicyclo[4.2.0]oct-4-en-8-one (3)



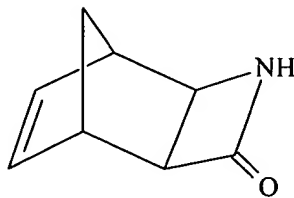
(3)

Claim 10 (amended):

A The process according to ~~any preceding claim~~ claim 1, wherein the lactamase enzyme is obtainable from a microorganism having the characteristics of that available as the *Rhodococcus globerulus* strain identified as CMC103381, Accession No. NCIMB 41042.

Claim 11 (amended):

An enantiomerically ~~Enantiomerically~~ enriched 3-azatricyclo[4.2.1.0<sup>2,5</sup>]non-7-en-4-one of formula (2) [as shown in claim 8,]

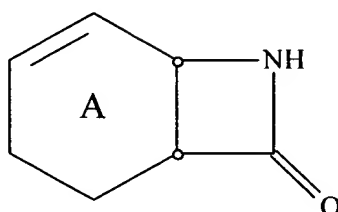


(2)

in an enantiomeric excess of at least 80%.

Claim 12 (amended):

An enantiomerically ~~Enantiomerically~~ enriched 7-azabicyclo[4.2.0]oct-4-en-8-one of formula (3) ~~as shown in claim 9,~~



(3)

in an enantiomeric excess of at least 80%.

Claim 13 (amended):

A lactam according to claim 11 ~~or claim 12~~, wherein the enantiomeric excess is at least 95%.

Claim 14 (amended):

The enantiomerically ~~Enantiomerically~~ enriched ~~levorotatory~~ enantiomer according to ~~any~~ of ~~claims 11 to 13~~ claim 11 in the levorotatory form.